INGLESE

Presentazione Società

La Sysco fondata nel 1978, nel corso della sua espansione ha realizzato un'organizzazione strutturata in varie sedi:
ROMA e BOLOGNA curano i rapporti con la clientela per la parte commerciale e tecnica.
POMEZIA stabilimento - si occupa di progettare e realizzare i prototipi, produrre i sistemi speciali elettronici
ed automatici anche su specifiche richieste del Cliente.
PARIGI, ufficio di recente istituzione per i rapporti con l'estero.
SERVIZIO DI ASSISTENZA TECNICA per tutto il territorio nazionale con centri di manutenzione
attrezzati per riparazioni hardware e software.

Elenco prodotti

HARDWARE + SOFTWARE

1 INTERFACCIA INTELLIGENTE PER GESTIONE RETI DI TRASMISSIONE DATI

2 MACCHINA AFFRANCATRICE ELETTRONICA DA SPORTELLO PER SERVIZI POSTALI CON PUNZONE DI STATO E TESTINA BUBBLE JET COLLEGATA AD UNA BILANCIA ELETTRONICA DI PRODUZIONE SYSCO PER LA DETERMINAZIONE AUTOMATICA DEL PESO DELLA CORRISPONDENZA. Omologata dalle PT per il trattamento delle raccomandate, assicurate, pacchi e telegrammi atta ad accelerare e migliorare tutti i problemi di sportello nel campo dell'affrancatura.

3 MACCHINA SELF-SERVICE PER IL TICKETING e LA TELEPRENOTAZIONE POSTI con accettazione di monete, banconote, carte di credito, di debito e prepagate e con l'emissione anche di biglietti formato IATA con stringa magnetica.

4 SISTEMI DI INFORMAZIONE AL PUBBLICO ANCHE INTERATTIVI E VOCALI per informazioni ferroviarie, turistiche, bancarie (cambi, corsi di borsa) ecc.
Tale sistema si serve di un'avanzata tecnologia informatica interattiva che produce una grafica di effetto. Le informazioni sono visualizzate a scelta in 4 lingue e propongono gli orari ferroviari ed i vari itinerari turistici con informazioni storiche e archeologiche e lista dettagliata per ogni località (alberghi, ristoranti e camping ecc.
Sistema di informazione di stazione, aeroporti per la teleindicazione degli orari di arrivo e partenza dei treni o aerei.
Tale sistema è composto di quadri tradizionali a palette e/o di sistemi innovativi a vacuum fluorescent, a led, a LCD e con monitor con grafica e software d'avanguardia integrabili con annunci sonori automatici.

5 SISTEMI DI INFORMAZIONI TELEFONICHE AUTOMATICHE di arrivo e/o partenza dei treni, saldi e/o movimenti di conto corrente bancario ecc. realizzati con tecnica elettronica vocale digitale.

6 RACK PORTAMODEM CABLATI CON SISTEMI DI CONNETTORIZZAZIONE PER SWITCHING E PATCHING ANALOGICO E DIGITALE

7 CASSETTE PER DEPOSITO BAGAGLI CON SERRATURA ANCHE ELETTRONICA E CONTROLLI DI SICUREZZA A GESTIONE CENTRALIZZATA
La SYSCO si propone sul mercato italiano ed estero quale fornitrice, installatrice e gerente di insieme di cassette automatiche elettroniche per il deposito bagagli assicurando anche la manutenzione ed eventualmente la gestione pluriennale degli impianti. Le cassette dotate di sistema di sicurezza inviolabile, possono essere: a chiave, con scontrino e codice segreto oppure con carta magnetica. Il pagamento può avvenire con monete o con carte magnetiche (credito, debito o prepagato).

8 ARMADI DI SICUREZZA PER REGISTRAZIONE OTTICA CLIENTI COMPRESO IL SISTEMA DI RILEVAMENTO

9 BILANCIE ELETTRONICHE OMOLOGATE PER USO PUBBLICO

10 SISTEMI PER LA GESTIONE DI CODE

11 DISPLAY INDICATORI PER SPORTELLI

SOFTWARE

1 PROBLEMATICA POSTALE DI ACCETTAZIONE RACCOMANDATE, ASSICURATE, PACCHI E TELEGR

2 PROBLEMATICA INFORMAZIONI AL PUBBLICO

3 PROBLEMATICA SULLA TRASMISSIONE DIGITALIZZATA PER VOCE, DATI ED IMMAGIN

IMPIANTI

1 IMPIANTI DI TELEINDICATORI AL PUBBLICO PER STAZIONI, AEROPORTI E GRA
LED, A VACUUM FLUORESCENT ED A LCD (LIQUID CRISTAL DISPLAY)

2 SISTEMA DI RILEVAZIONE AUTOMATICA DI ALLARME PER LINEE DI TR
AUTOMATICHE DELLA RETE

3 SISTEMI DI ANNUNCI SONORI AUTOMATICI CON VOCE DIGITAL
IMPIANTI DI DIFFUSIONE SONORA A SINTESI VOCALE

4 SISTEMI DI TRASMISSIONE P.C.M. AD ALTA VELOCITÀ
PER VOCE, DATI, IMMAGINI E CONTROLLI

5 SISTEMI DI SICUREZZA, CONTROLLO ACCESSI
PERSONE E MOTORIZZAZIONE PORTE E CAN

6 SISTEMI DI ILLUMINAZIONE PUBBLICA
EDIFICI, MONUMENTI, GRANDI PIAZ

7

Elenco be

- SIST
- M
-

...i come distributrice esclusiva

...IONE AUTOMATICA DI ALLARME PER LINEE DI TRASMISSIONE DATI
...LEXER PER LINEE DI TRASMISSIONE DATI
...URE DI COMMUTAZIONE E RIORDINO LINEE TRASMISSIONE DATI ANALOGICHE E DIGITALI
...ER TELECOMUNICAZIONI
...R LAN, TOKEN RING ECC.

...co beni fornibili come lavorazione a disegno

- MACCHINE ELETTRONICHE CON PERIFERICHE ELETTROMECCANICHE
- ELETTRONICA PER IMPIANTI
- SOFTWARE DI GESTIONE PER ELABORATORI E PER IMPIANTI DI TELECOMUNICAZIONI
- SOFTWARE PER APPARECCHIATURE DIGITALI
- CONSOLE DI REGIA

Iscrizioni albo fornitori

- FERROVIE ITALIANE DELLO STATO S.P.A.
- MINISTERO DELLA DIFESA
- MINISTERO DEGLI INTERNI
- ENTE DELLE POSTE E TELECOMUNICAZIONI
- UNIVERSITÀ DEGLI STUDI DI ROMA
- COMANDO GENERALE ARMA CARABINIERI
- AZIENDA ASSISTENZA AL VOLO
- A T A C
- I N A I L
- A. CO. TRA. L.
- A C E A
- R.A.I. (Radio Televisione Italiana)
- A.N.C. (Albo Nazionale dei Costruttori)
- P.G.S (Provveditorato Generale dello Stato)

...CON SISTEMI A PALETTE, A

...DATI CON RICONFIGURAZIONI

...NE

SYSCO

DIREZIONE TECNICO AMMINISTRATIVA:
Via Monti Sibillini, 10 - 00141 Roma
Tel. 06/8188125 - 8186006 (Fax)

STABILIMENTO:
Via Trento, 5/c - 00040 Pomezia (RM)
tel. 06/9122488 (Fax)

UFFICIO DI BOLOGNA:
Via Boldrini, 22 - 40121 Bologna
tel. 051/255408 (Fax)

UFFICIO DI MESSINA:
Stazione Messina Marittima - 98100 Messina
tel. 090/661276 (Fax)

UFFICIO DI PAOLA:
Stazione di Paola - Fabbricato Viaggiatori
87027 Paola (CS)

UFFICIO DI PARIGI:
86, Boulevard de Grenelle - 75015 Paris
tel. 00331/45757415

Sysco Company Profile

Sysco is a private company, operating since 1978 as a system integrator of automation and information systems dedicated to the Italian Railways and other Public Utilities.

The Sysco operations are presently focused around the field of the Passengers Information Display Systems and Peripherals.

A number of turn-key systems were supplied, since 1989, to F.S. (Italian railwais company) for fitting many passenger stations all over the Italian network.

The system configuration includes an original software application package based on a PC server and a local area network interconnecting various peripheral equipment which can exploit different technologies, as required by the customers (split-flaps - originally designed and manufactured -, vacuum flourescent displays, LCDs, LEDs and graphical monitors).

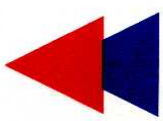
The company policy is firmly customer oriented and based on the continous improvement of the product range and quality, in order to satisfy the most stringent customer's requirement.

The quality assurance system has been ISO 9001 certified by the "Det Norske Veritas" organization.

The main customers are:

F.S. (Italian Railways)
Regional Railways
Ministery of Defence
ENEL (National electrical energy service provider)

The company headquarter and the technical laboratories are established in Rome, while the manufacturing plant is located in Pomezia - a small industrial centre near Rome.



ORGA &
THOMPSON S.a.s.

Report by the independent auditor

To Sysco S.r.l's shareholders
Via Catullo, 75
00040 – Pomezia
Rome
With copy to Sole Director
Mr. Vincenzo Manzini

We submitted Sysco S.r.l's balance sheet on 31st December 1997 for auditing.

Our examination was based on established auditing principles. In compliance with said principles we referred to legal rules regulating the annual balance sheet, to be interpreted and integrated by the correct accounting principles issued by the Board of Chartered Accountants.

In our opinion, the above balance sheet in its entirety, including the balance sheet, the profit and loss account and the notes, was drawn up clearly. Furthermore, it truly and properly represents the financial status and the profit (or loss) of Sysco S.r.l. for the year ending 31st December 1997, in compliance with regulations governing annual balance sheets, mentioned in the second paragraph.

Orga & Thompson S.a.s.

Roberto Aresi Alessandro Ruina

Milan, 27th May 1998

For legal purposes, only the Italian version of the report will be considered as valid

ORGA &
THOMPSON S.a.s.

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Orga & Thompson S.a.s.

Roberto Aresi Alessandro Ruina

Milan, 27th May 1999

For legal purposes, only the Italian version of the report will be considered as valid

PRESENTAZIONE DELLA SYSCO

La Sysco S.r.l. é una società d'integrazione di sistema a capitale privato che, dal 1978, svolge attività di progettazione, sviluppo, produzione, installazione ed assistenza nei seguenti settori di mercato:

- informazioni al pubblico (visive, sonore);
- automazione d'impianto (teleprenotazione, emissione biglietti, cassette deposito bagagli self service, pesatura elettronica)
- elaborazione e trasmissioni dati (sistemi gestionali, reti LAN).

La società svolge, inoltre, attività di realizzazione e manutenzione di impianti tecnologici:

- diffusione sonora
- illuminazione ed impianti elettrici BT
- telesorveglianza, antintrusione e rilevazione incendio
- impianti tecnologici ferroviari (TE, IS, IFM, TT)
- impianti di telecomunicazioni e trasmissione dati

Il fatturato del 1999 é stato di circa 10,5 miliardi. Il fatturato previsto per il 2000 è di circa 13 miliardi.
Il portafoglio ordini è di 14 miliardi.

La connotazione caratterizzante della Sysco é "l'orientamento al Cliente", ovvero: la particolare attenzione posta nell'identificare e comprendere le esigenze del cliente, nel proporre tempestivamente soluzioni sistemistiche personalizzate, nel supportare con continuità i propri prodotti installati presso i clienti per tutto il ciclo di vita.

La Sysco possiede la certificazione del sistema di assicurazione della qualità EN/ISO 9001 ed é costantemente impegnata nel miglioramento dei propri prodotti impiegati nella realizzazione dei sistemi d'informazione al pubblico, che comprendono le seguenti componenti a tecnologia avanzata:

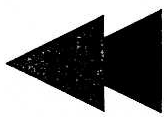
- Centrale di gestione, basata su Personal Computer e su un software applicativo di sviluppo originale Sysco;

- Apparecchiature periferiche di visualizzazione, di progettazione originale , basate su tecnologie tradizionali a rulli di palette o bistabili e/o su tecnologie innovative a "Vacuum Fluorescent Display", LED, LCD e su monitor grafici a colori.

- Complessi per gli Annunci Sonori Automatici (ASA) e per le Interrogazioni Telefoniche Automatiche (ITA), basate su Personal Computer e su pacchetti di software applicativo di sviluppo originale Sysco;

Tra i principali clienti della Sysco vi sono: le Ferrovie dello Stato, l'Ente Poste e l'ENEL, SIRTI,TELI e ICOT.

La Sysco é iscritta all'Albo Nazionale Costruttori nelle seguenti categorie, con gli importi a fianco indicati: **Cat. 1** mil. 750 - **Cat. 2** mil. 1500 - **Cat. 3A** mil. 150 - **Cat. 5C** mil. 1500 - **Cat. 5E** mil. 150 - **Cat. 9C** mil. 750 - **Cat. 9D** mil. 300 - **Cat. 16F** mil. 300 - **Cat. 16H** mil. 300 - **Cat. 16L** mil. 300 - **Cat. 18** mil. 6000-



SYSCO

RISORSE ED ATTREZZATURE

1. Sedi Operative:

• Roma - Via dei Monti Sibillini, 10:	Direzione ed uffici tecnici e commerciali Laboratorio di prototipazione elettronica
• Pomezia - Via Trento:	Laboratorio di prototipazione meccanica Stabilimento di produzione
• Bologna - Via Byron, 12	Nucleo Operativo Lavori
• Cosenza - Via Montagna, 52a	Nucleo Operativo Lavori

2. Personale:

- n. 5 ingegneri
- n. 11 periti ed impiegati tecnici
- n. 5 impiegati amministrativi e commerciali
- n. 65 operai qualificati e comuni

3. Attrezzature di progettazione

- Stazione CAD per progettazioni meccaniche;
- Stazione CAD per progettazioni elettriche;
- Stazione CAD per progettazioni elettroniche;
- Plotter A1, Stampanti laser;
- Strumentazione elettronica da laboratorio (Oscilloscopi, Generatori di funzioni, Multimetri, Alimentatori, ecc.) con certificato SIT;
- Stazioni di saldatura;
- Torni, Frese, Trapani, e Macchine Utensili varie per prototipazioni.

PROT: CER/93111/2000/CRM0735 11/07/2000

CAMERA DI COMMERCIO INDUSTRIA ARTIGIANATO AGRICOLTURA DI ROMA
- UFFICIO REGISTRO DELLE IMPRESE -

CERTIFICATO DI ISCRIZIONE NELLA SEZIONE ORDINARIA

GENERALITA' DELL'IMPRESA

Numero di iscrizione: 2692/1978 tribunale di ROMA
del Registro delle Imprese di ROMA (RM091-1978-2692)
data di iscrizione: 19/02/1996

Iscritta nella sezione ORDINARIA il 19/02/1996

Già iscritta al Registro Ditte con il numero: 429101 il 24/08/1978

Denominazione: SYSCO SOCIETA' A RESPONSABILITA' LIMITATA

Codice fiscale: 03255620589

Forma giuridica: SOCIETA' A RESPONSABILITA' LIMITATA

Sede:
ROMA (RM) VIA MONTE BIANCO, 75 CAP 00141

Costituita con atto del 16/06/1978

Capitale Sociale in LIRA ITALIANA
deliberato 96.000.000
sottoscritto 96.000.000
versato 96.000.000

Durata della società:
data termine: 31/12/2028

Oggetto Sociale:
CONSULENZA E FORNITURA DI SERVIZI IN CAMPO COMMERCIALE, FISCALE ORGANIZZATIVO E FINANZIARIO; IL COMMERCIO ALL'INGROSSO ED AL DETTAGLIO; LA PROGETTAZIONE, PRODUZIONE, INSTALLAZIONE, IL FUNZIONAMENTO OPERATIVO E LA MANUTENZIONE DI APPARECCHIATURE AUTOMATICHE ED ELETTRONICHE ANCHE PER L'ELABORAZIONE DEI DATI, PRESTANDO ANCHE CONSULENZE DI PROGRAMMAZIONE, DI SISTEMISTICA E DI INGEGNERIA DEI SISTEMI INFORMATIVI.

ORGANI SOCIALI IN CARICA

- AMMINISTRATORE UNICO
numero componenti in carica: 1
durata in carica FINO ALLA REVOCA
dal 18/07/1983

Poteri da Statuto:
ALL'AMMINISTRATORE UNICO SPETTANO I PIU' AMPI POTERI DI ORDINARIA E STRAORDINARIA AMMINISTRAZIONE NONCHE' LA RAPPRESENTANZA LEGALE DELLA SOCIETA' DI FRONTE AI TERZI ED IN GIUDIZIO.

TITOLARI DI CARICHE O QUALIFICHE

- AMMINISTRATORE UNICO nominato il 18/07/1983
* MANZINI VINCENZO
nato a NAPOLI (NA) il 19/08/1928
codice fiscale: MNZVCN28M19F839M

Segue ...

PROT: CER/93111/2000/CRM0735 11/07/2000

- DIRETTORE TECNICO nominato il 21/12/1995
* MARIANI ROMANO
nato a ROMA (RM) il 27/08/1959
codice fiscale: MRNRMN59M27H501A

- RESPONSABILE TECNICO nominato il 20/05/1999
* PALUCCI MARCELLO
nato a ROMA (RM) il 22/04/1961
codice fiscale: PLCMCL61D22H501T

- RESPONSABILE TECNICO nominato il 20/05/1999
* BONOFIGLIO MAURO
nato a COSENZA (CS) il 21/09/1962
codice fiscale: BNFMRA62P21D086R

ATTIVITA' DELL'IMPRESA

Data d'inizio dell'attività dell'impresa: 16/06/1978

Attività esercitata nella sede legale:
CONSULENZA NEL CAMPO DELLE COSTRUZIONI CIVILI, ELETTROMECCANICHE, ELETTRONICHE
APPALTI DI LAVORI DI IMPIANTI DI TELECOMUNICAZIONI, ELETTRICI E FERROVIARI
INSTALLAZIONE, TRASFORMAZIONE, AMPLIAMENTO, MANUTENZIONE DEGLI IMPIANTI DI PROTEZIONE ANTIINCENDIO.
IMPIANTI DI RISCALDAMENTO E CLIMATIZZAZIONE, IDRAULICI, TRASPORTO DI GAS, ASCENSORI E MONTACARICHI.

SEDI SECONDARIE E UNITA' LOCALI

- Unità locale STABILIMENTO
POMEZIA (RM) VIA TRENTO, 5/C CAP 00040

Attività esercitata:
STABILIMENTO.

Data apertura: 09/10/1989

- Unità locale SEDE AMMINISTRATIVA
DIREZIONE TECNICA
ROMA (RM) VIA MONTI SIBILLINI, 10 CAP 00141

Data apertura: 01/11/1998

SI CERTIFICA ALTRESI'

che l'impresa ai sensi della Legge 5 marzo 1990, n. 46, recante norme per la sicurezza degli impianti è abilitata, salvo le limitazioni più sotto specificate, all'installazione, alla trasformazione, all'ampliamento e alla manutenzione degli impianti di cui all'Art. 1 della Legge n. 46/1990 come segue:

1) lettera A
PER GLI IMPIANTI DI PRODUZIONE, DI TRASPORTO, DI DISTRIBUZIONE E DI UTILIZZAZIONE DELL'ENERGIA ELETTRICA ALL'INTERNO DEGLI EDIFICI A PARTIRE DAL PUNTO DI CONSEGNA DELL'ENERGIA FORNITA DALL'ENTE DISTRIBUTORE.

2) lettera B
PER GLI IMPIANTI RADIOTELEVISIVI ED ELETTRONICI IN GENERE, LE ANTENNE E GLI

Segue ...

PROT: CER/93111/2000/CRM0735 11/07/2000

PERVENUTA NEGLI ULTIMI 5 ANNI A QUESTO UFFICIO DICHIARAZIONE DI FALLIMENTO, LIQUIDAZIONE AMMINISTRATIVA COATTA, AMMISSIONE IN CONCORDATO O AMMINISTRAZIONE CONTROLLATA

PER IL CONSERVATORE
L'IMPIEGATO ADDETTO
CLAUDIO GIOCONDI

SOGGETTI CONTROLLATI (ARTICOLO 2 DEL D.P.R. N. 252 DEL 3.6.1998)

CODICE FISCALE	DENOMINAZIONE	PROV. SEDE
03255620589	SYSCO SOCIETA' A RESPONSA	RM

COGNOME	NOME	SESSO	PROV.NASC.	DATA NASC.
MANZINI	VINCENZO	M	NA	19/08/1928

N U L L A O S T A

AI FINI DELL'ARTICOLO 10 DELLA LEGGE 31 MAGGIO 1965, N. 575 E SUCCESSIVE MODIFICAZIONI. LA PRESENTE CERTIFICAZIONE E' EMESSA DALLA C.C.I.A.A. UTILIZZANDO IL COLLEGAMENTO TELEMATICO CON IL SISTEMA INFORMATIVO UTILIZZATO DALLA PREFETTURA DI ROMA

*** FINE CERTIFICATO ***

PROT: CER/93111/2000/CRM0735 11/07/2000

IMPIANTI DI PROTEZIONE DA SCARICHE ATMOSFERICHE.

3) lettera C
PER GLI IMPIANTI DI RISCALDAMENTO E DI CLIMATIZZAZIONE AZIONATI DA FLUIDO LIQUIDO, AERIFORME, GASSOSO E DI QUALSIASI NATURA O SPECIE.

4) lettera D
PER GLI IMPIANTI IDROSANITARI NONCHE' QUELLI DI TRASPORTO, DI TRATTAMENTO, DI USO, DI ACCUMULO E DI CONSUMO DI ACQUA ALL'INTERNO DEGLI EDIFICI A PARTIRE DAL PUNTO DI CONSEGNA DELL'ACQUA FORNITA DALL'ENTE DISTRIBUTORE.

5) lettera E
PER GLI IMPIANTI PER IL TRASPORTO E L'UTILIZZAZIONE DI GAS ALLO STATO LIQUIDO O AERIFORME ALL'INTERNO DEGLI EDIFICI A PARTIRE DAL PUNTO DI CONSEGNA DEL COMBUSTIBILE GASSOSO FORNITO DALL'ENTE DISTRIBUTORE.

6) lettera F
PER GLI IMPIANTI DI SOLLEVAMENTO DI PERSONE O DI COSE PER MEZZO DI ASCENSORI, DI MONTACARICHI, DI SCALE MOBILI E SIMILI.

7) lettera G
PER GLI IMPIANTI DI PROTEZIONE ANTINCENDIO

RESPONSABILI TECNICI

* MANZINI VINCENZO
nato a NAPOLI (NA) il 19/08/1928
Codice Fiscale: MNZVCN28M19F839M
residente a ROMA (RM) VIA MONTE TOMATICO, 7 CAP 00141
- AMMINISTRATORE UNICO
per l'esercizio delle attività di cui alla lettera A, B, G

* PALUCCI MARCELLO
nato a ROMA (RM) il 22/04/1961
Codice Fiscale: PLCMCL61D22H501T
residente a ROMA (RM) VIA CARLO LINATI 85 CAP 00100
- RESPONSABILE TECNICO
per l'esercizio delle attività di cui alla lettera A, B, C, D, E, F, G

* BONOFIGLIO MAURO
nato a COSENZA (CS) il 21/09/1962
Codice Fiscale: BNFMRA62P21D086R
residente a COSENZA (CS) VIA POPILIA SNC CAP 87100
- RESPONSABILE TECNICO
per l'esercizio delle attività di cui alla lettera A, B, C, D, E, F, G

Le notizie e i dati relativi ad atti depositati prima dell'entrata in vigore del D.P.R. 7/12/1995, n. 581, possono risultare in estratto o in forma sintetica.

Il presente certificato riporta le notizie/dati iscritti nel Registro alla data odierna.

IMPOSTA DI BOLLO ASSOLTA IN MODO VIRTUALE. AUT. INT. FINANZA ROMA N. 103908 DEL 21-12-1976.

Riscosse per DIRITTI Lire 20.000 (**VENTIMILA**)
per NR BOLLI 2 Lire 40.000 (**QUARANTAMILA**)
Totale Lire 60.000 (**SESSANTAMILA**)
Totale espresso in Euro 30,99

SI DICHIARA INOLTRE CHE A CARICO DELLA PREDETTA DITTA NON RISULTA

Segue ...

Ministero dei Lavori Pubblici

B083748

PROVVEDITORATO REGIONALE OO.PP. PER IL LAZIO
COMITATO REGIONALE A.N.C.

S I C E R T I F I C A

che l'IMPRESA matricola n. 5288600 C.F. ********** P.I. **********

Ragione Sociale: SYSCO SOCIETA' A RESPONSABILITA' LIMITATA

Sede: VIA MONTE BIANCO 75
00141 ROMA

Direttori Tecnici:
MANZINI VINCENZO n. NAPOLI 19 ago 28
MARIANI P.i. ROMANO n. ROMA 27 ago 59

Rappresentanti Legali:
MANZINI VINCENZO n. NAPOLI 19 ago 28

E ' I S C R I T T A

nell' ALBO NAZIONALE COSTRUTTORI dal 08 lug 81 per le categorie e gli importi a lato specificati e confermati con REVISIONE positiva, ai sensi del D.M. 09 mar 89 N. 172, fino al 27/mar/2001.

****

CAT.	IMPORTO (in milioni)
G1	*/*1500*
*G10	/**300*
*G11	/*1500*
G2	/**150*
G3	/***45*
S1	/**750*
*S19	/*6000*
S3	/***45*
S5	/**150*
S6	/***75*
S8	/***75*
S9	/**750*

****

Roma, 20/ott/99

Il Provveditore
SEGRETARIO A.N.C.
Dr. Giuseppe Antonio Luigi Campolongo

Certificato valido 1 anno dalla data di rilascio.

VG0010110

MINISTERO DELLE COMUNICAZIONI
Ispettorato Territoriale Lazio
*Sezione 1^*
Viale Trastevere n.189 - 00153 Roma
☎ 06/5858262

Roma, - 2 OTT. 1998

Prot.n. 1C/ITI/340/DIM/ 7904 ASSICURATA
Allegati
Risp. al n.
del

Spett.SYSCO S.r.l.
Via Catullo 75
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Direzione Generale
Via Flaminia 189
00196 R O M A

Oggetto: Rilascio autorizzazione di 1° grado per l'installazione, il collaudo, l'allacciamento e la manutenzione di impianti telefonici interni di TLC (art. 5 dell'allegato 13 al D.M. 23.5.1992 n.314).

In esito all'istanza del 17.04.1998, si trasmette l'originale della determinazione n.RM/70 mediante la quale codesta Impresa è autorizzata alle operazioni in oggetto con decorrenza 26.09.1998.

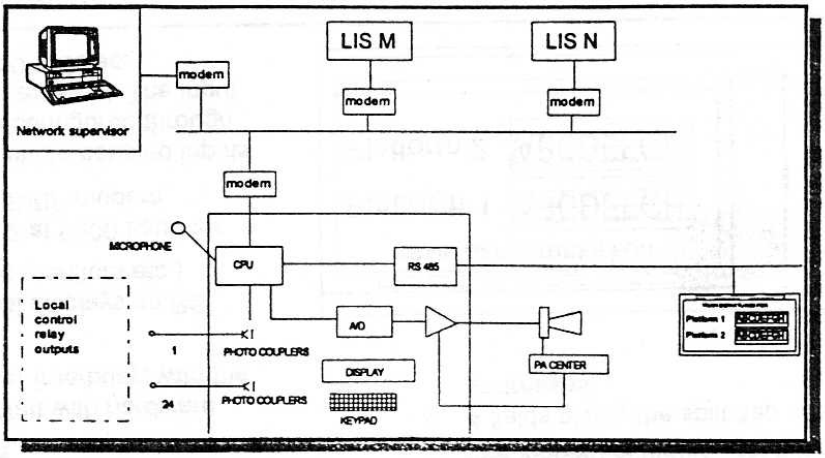
Si coglie l'occasione per richiamare l'attenzione sul contenuto del 1° comma dell'art.8 dell'allegato 13 al D.M. 314/92 in merito alle modalità relative al rinnovo dell'autorizzazione che dovrà essere richiesto almeno 90 giorni prima della scadenza del termine di validità triennale.

IL DIRIGENTE DELL'UFFICIO
(FLAVIANO Ing. Federico)

Trasmissione determina

SYSCO

LIS



Local Information System

LOCAL INFORMATION SYSTEM FOR MULTISTATION RAILWAY LINES AND OVER AND UNDER

This system , designed and developed by Sysco Srl of Rome, Italy, was designed to answer the safety and general passenger requirements in unattended railway stations or similar public Transport stops.

LIS is an integrated system composed of digital audio and display units. These latter can be of any type suitable for the purpose of displaying correct Information at any time in any ambient illumination condition and must be, among other requirements, vandal proof

The major field of application of LIS is in multi station lines , depending from major stations where a supervision Control unit can be installed.

The low cost of the Local Information System allows for the installation of the system in passenger traffic sensitive stops, implementing the supervisory Control through any serial data link from the main , or "gate" system.

The LIS can be linked to the "gate" system via a local modem and dedicated serial channel , regardless of its hardware implementation in a wired or wireless mode. Locally the system is connected to relay Information to synchronise the schedular Information with the actual situation of the trains on the line.

Main features

The system has these main features:

- Capability of displaying information with up to 8 video monitors
- Capability of displaying information with split-flap units
- Generation and diffusion of digitally generated audio announcements relative to departing, arriving and transiting (no stop) trains. The system accepts inputs from local relays to effectively synchronise the announcements.
- Co-ordination of audio and visual information
- Timed general utility audio announcements

System parameters

The LIS is fully configurable and allows for the definition of the following system's parameters:

- Programming of the Arriving, Departing and Transit trains local threads
- Input from signalling programmable by logical AND/OR operators
- Association of messages to pre-programmed conditions
- Timed fixed messages
- Association of visual and audio information

Utility functions

In addition to the standard features there are also utilities as:

- Digital setting of the audio output level
- Control and playback of stored messages
- Capability of recording free format messages from a local microphone
- Playback and editing of free format messages

The potential of the LIS is such as to permit the implementation of a distributed information network managed by a central, "gate", unit which is responsible for the centralised generation and maintenance of all the information package.All the local diagnostics are transmitted to the "gate" unit.

System's hardware

The LIS is contained in an ABS enclosure certified to IP66 environment protection standard, with a front transparent door, which houses the CPU card, the power supply, and Liquid Crystal Display service display and the programming keypad.

The system's electronics have the following features:

- Switching power supply AC/DC input 150-230 Vac, output 5 and 12 Vdc 1 A
- Microprocessor control unit INTEL 80151?80251 8/16 bit , 11 MHz clock.
- Program EPROM 256 KBytes
- Battery backed-up RAM 128 KBytes
- RTC calendar clock with 10 years battery
- Service console with Liquid Crystal Display alphanumeric 2 lines by 40 characters backlit and 6 functional keys
- D/A converters for audio output using an ADPCM sampling at 8 KHz , with a band of 3.4 KHz, for a total stored messages capacity of 6 minutes of speech.
- D?A converter for the free format messages storing for a maximum of 2 minutes of messages
- Audio output of 0.5 Watt with hardware handshaking interface(free/busy) with the PA console.
- Serial line to the visual displays on RS 485 (split-flaps, video monitors etc.)
- Serial line port RS 232 at 9600 baud for remote control by a BB/BF modem.
- Relay interface of 24 photo coupled inputs : input current can be configured through jumpers as internal or external. The input range shall be 12 - 150 V dc/ac.

Sample resident audio segments and messages

As an example we describe a typical set of audio segments on which to build the message for a system.

It is possible to generate stored segments for all the fixed parts of the message as City names, fixed parts etc. which are assembled into messages.

SYSCO Srl supplies with LIS a program which runs under a OC Windows environment to manage and record the audio segments and transfer them to LIS chip support.

Sample message structure:

Audio segments:

- train
- originating from
- is arriving at platform
- is departing from platform
- Caution. Train in transit . Stay back from the platform edge.
- For
- One
- Two
- City 1
- City2
- .City N

Fixed messages:

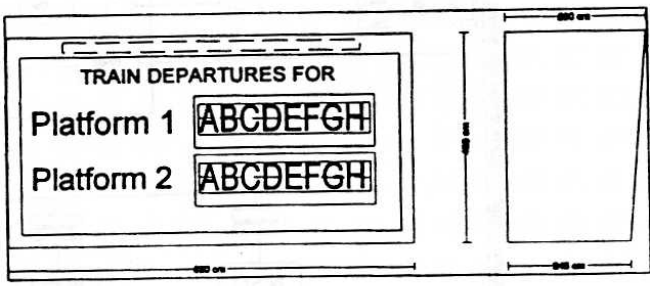
- Do not cross the rails. Use the underground passage.
- Customers are kindly reminded that smoking is forbidden on the station premises.

Message - split-flaps association

Through this function it is possible to associate to a given message a split-flap unit position.

Activating the function these fields are shown:

- message sequence number
- flap sequence number on a given unit
- 4 fields giving the split-flap units addresses



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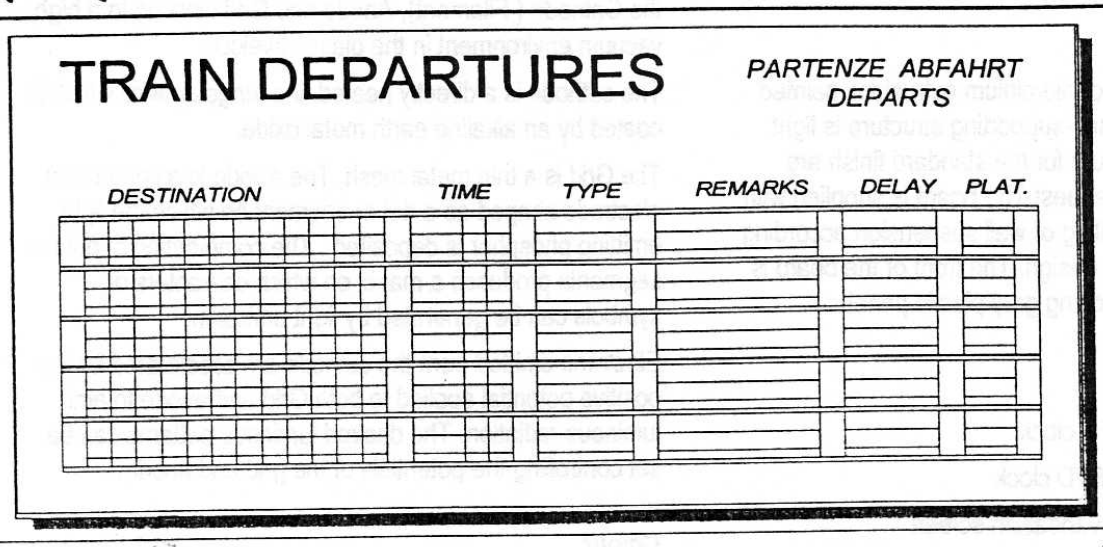

Split-Flap Display Boards

Sysco Display Boards for Passenger Information

Functional Features

The main Departures/Arrivals boards are the fundamental components of the Transport Terminal's Public Information System and their configuration is designed to give information in schedular form about Departing and Arriving Trains, Aircraft, Buses etc.

The differentiation between Departures and Arrivals is given by the different text on the main headings and by the different arrangement of some fields (gate, baggage etc.), while other fields may have the same format but with different meaning (origin-destination) in both boards..

A Split-Flap display board has the following features:

- It grants unambiguously clear high contrast written information readable between 1 and 18 meters in the 35 mm characters size, 3 and 30 meters in the 60 mm version , or between 5 and 65 meters in the 100 mm option. The printed information grants a reading angle of 140°, thus enabling it to be installed in medium to large Terminals with large halls.
- Dynamic information is provided by Sysco split-flap modules with 40 or 60 flaps per module.
- It uses continuous and familiar characters fonts and colors to enhance contrast and it can provide special full colour logos and symbols.
- Information can be written on two lines of half size characters on some wide module split-flap units.
- Its readability is improved by high ambient light, while the normal inside illumination is enough for an optimal intelligibility.

Fixed headings

In Railway boards the heading is " Departures" (res. Arrivals) printed with white characters 150 mm high.

On the right of this inscription, other inscriptions in a smaller Italic font can repeat the word departures (Arrivals) in other languages. The field headings are centered over the corresponding fields and are printed on two lines with 50 mm characters.

Dynamic split-flap information lines

As an application example this is the configuration of the 5 lines board illustrated above:

Field	Quantity	Type
Destination / Origin	12 s-flap unit RP 60	M1
Scheduled time	2 s-flap unit RP 60	M2 +
	1 s-flap unit RP 60	2xM1
Type	1 s-flap unit RP 60	M4
Remarks	1 s-flap unit RP 60	M6
Delay	1 s-flap unit RP 60	M4
Platform	1 s-flap unit RP 60	M2

The Display Board structure

SYSCO has a unique approach to the board's design which increases it's reliability and helps weight saving with fresh ideas on the type and location of the internal board components satisfying these requirements:

- provide a rigid frame to house the Split-Flap units
- connect internally the Split-Flap units to their controllers
- connect these controllers to the processing System

Backplane and Wiring

Internal wiring almost completely eliminated due to the backplane connectionsbetween the CPU

The power wiring is made line by line from the line power supply to the VFDs.

Frame

The board frame is made of aluminium extrusions painted with polyester paint. The self-supporting structure is light and of limited depth. Colours for the standard finish are available on Customer's request.The board is supplied with mounting hardware for ceiling or wall suspension according to the customer approved design. The front of the board is made of a contrast enhanching grey plastic panel

Options

Optional features are:

- Simple VFD clock
- Day-date FVD clock
- Front anti-vandalism screen
- Free format information lines
- Ethernet connection

Board Technical features

Feeding

Voltage	220 V AC +/- 10%
Frequency	47 - 63 Hz

Environmental conditions

Temperature	-20° +60° C
Humidity	from 10% to 90% no condensation

Communications

Interface	RS - 422
Speed	1200 a 9600 Baud
Format	8 bit Data, 1 bit Stop, parity Even
Protocol	Multipoint
Safety standard	IEC 950

VFD Vacuum Fluorescent Display - Principle

The VFD is a variation of the Triode vacuum tube which is composed of three basic electrodes:

the Cathode (Filament), Anode and Grid working in a high vacuum environment in the glass envelope.

The cathode is a directly heated fine tungsten wire which is coated by an alkaline earth metal oxide.

The Grid is a thin metal mesh. The Anode is a conductive electrode shaped as a dot or segment on which the light emitting phosphor is deposited . The combination of dots or segments produces a matrix on which characters or symbols can be generated by light emission.

Electrons emitted from the cathode are accelerated by the positive potential applied to both Grid and anode to emit luminous radiation. The desired luminous patterns can be set controlling the potentials of the grid and anode.

Colour

The most common colour for VFD is the blue-green fort its high brightness, long life and aesthetic appeal. Eight additional colours can be achieved and are available on request.

The colours are : Blue, Sky Blue, Blue Green (Standard) , Neo Green, Lemon, Yellow, Amber, Mandarin, Red. All the colours are rated at about 30% Brightness ratio compared to the standard Blue green. In a multi colour display the tone balance is achieved adjusting the single colours by voltage or duty factor.

Optical filters

The purpose of optical filters is to protect the VFD adjusting the colour luminance and achieving greater contrast. Contrast is enhanced blocking the reflection of inactive segments which are coated with whitish phosphor with a grey colour optical filter

Technical features:

The following data are applicable to a widely used VFD display component, the 5 x7 matrix 50 mm high for alphanumeric data representation to large audiences. The unit is composed of a 5 x 7 matrix of 35 display elements with 5 x 6 mm dimensions, with these features

Power	1.5 W all 35 pixels on
Temperature	-20° to 60°
Humidity 1	0% to 90% non cond.
Dimensions WxHxD	43,7 x 84,6 x 7,6 mm
Weight	75 g
Luminance	3 50 cd/m²(102 ft/Lambert)

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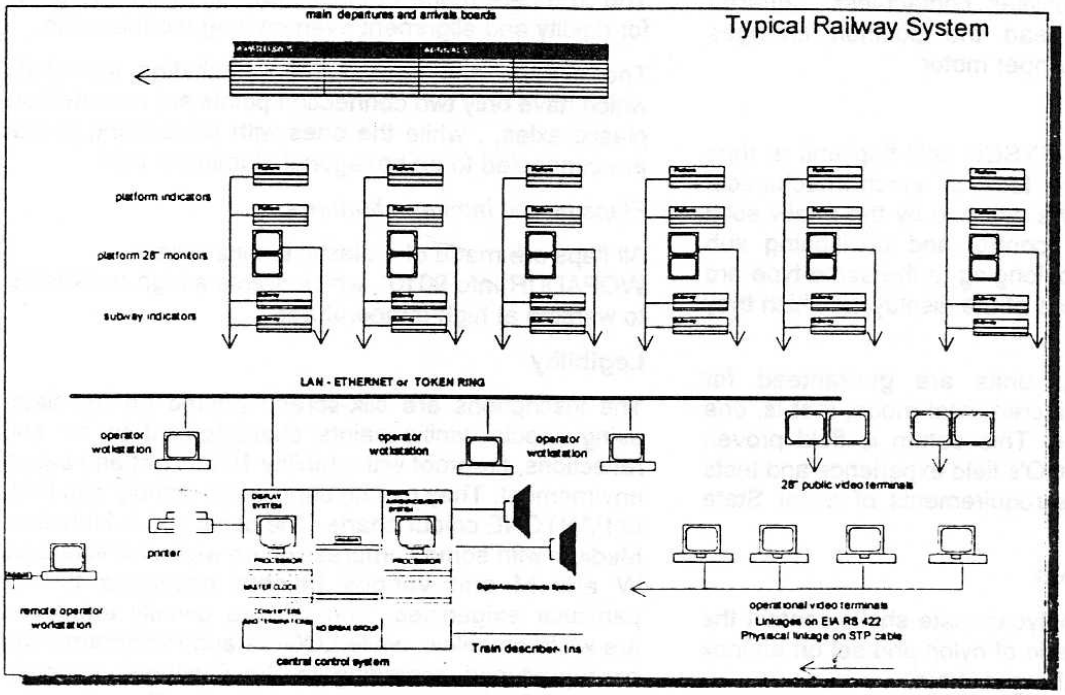


System and Software

The Passenger Inormation System

System's architecture

In the design of Public Information Systems for Transport Terminals, in particular, Railway Stations, SYSCO Srl , offers a technologically advanced set of solutions to the market requirements through a proprietary System for information management and distribution. The System completely satisfies the outline and detailed specifications of the Italian state railways for such Systems . These Systems use processing units and display terminals together with digital audio information to inform the passengers on the Terminal's traffic.

All the processing units are PC IBM compatible units .

Components

The basic components of the central information System are:

- Master server
- Operator's workstation (slave)
- Digital announcements subsystem (ASA)

All the processing units are linked through an Ethernet Local Area Network (LAN) on which all the data exchanges are performed. The standards and modularity of the LAN approach allows, besides a high transmission speed and safety in the data transmission, to share its resources between other subsystems in the Terminal ,which can link and communicate independently from the information system's proceedings.

The main features of this System are:

- operational functions distribution between the network units
- immediate upgrade of Passenger dedicated information
- modularity and expandability of this System
- standard hardware utilisation

Master unit

This Control Unit is the main control centre (Master) for "Stand Alone" information Systems, which are dedicated to managing only one Transport Terminal (a Station or an Airport). Other Hardware and Software packages described in other documents, are designed to handle multiple Terminals.

This unit is engineered to be housed in a 19" Standard rack which contains the processor and the hardware communication and field interfaces necessary to process information and communicate with al the dedicated peripherals. The processor runs the operating system and application programs which manage the system's functionality

- the communications with the board controller,
- the positioning of the flaps from the information read from the position encoder

3. the encoder which utilises contact-less infrared optical sensors to read the position changes commanded by the stepper motor

Reliability

The reliability of the RP-SYSCO split-flap unit is thus guaranteed by the total lack of electromechanical contacts and relays on the unit and by the totally solid state integration of the control and positioning sub assemblies.Al the units belonging to the same type are interchangeable regardless of the display on which they are installed.

The SYSCO Split-Flap units are guaranteed for 1.000.000 operations in incremental mode, that is, one million writing operations. This datum is field proven and is supported by SYSCO's field experience and tests performed according the requirements of major State railways.

Positioning and feedback

Two dust proof sealed polycabonate shells contain the optically coded wheel made of nylon and set on an inox steel axle connected to the gear train.

The encoder card is abased on a RISC microprocessor chip that actuates the position commands received from the board controller through an RS 485 serial link.. The card has two PCBs : one that houses al the electronics and power supply components and the second that supports the optical LEDs .

Flaps sets.

The flaps are of different sizes for every type of SYSCO Split-Flap units.

In the basic version they are composed by 40 flaps snapped in two or more sprocket wheels, made of auto-lubricant plastic material, centred on a drive axle.

The axles are made of plastic and aluminium to allow for rigidity and alignment even on long module units..

Those flaps sub assemblies (including sprocket) which have only two connection points are mounted on plastic axles, , while the ones with more fixing points are connected to an hexagonal aluminium axle.

Flaps plastic laminate features

All flaps are made of a plastic laminate type WOPADUR Info 9010", which grants a high resistance to warping at high temperatures.

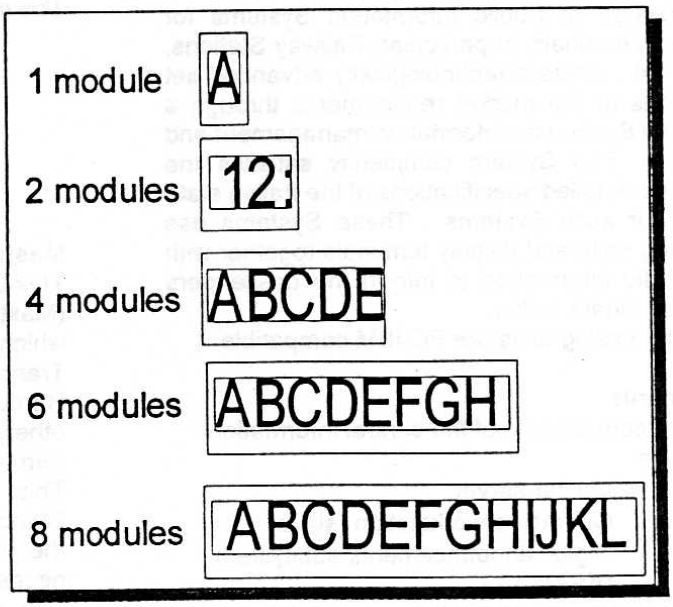
Legibility

The inscriptions are silk-screen printed on the flaps using special vinilic paints characterised to be anti reflections, fireproof with stability 10 for light and saline environment. They can be supplied to comply with RAL or PANTONE colour charts. The basic font is Helvetica Medium with some compression on wide characters as W and M and various heights according to the particular exigencies. The colours usually employed are white or yellow, while LOGOS and Pictograms can be reproduced according to the Customer supplied artwork. On some particular units, as Remarks, the inscriptions can be printed on half flap in half height characters, with an increase in information content accompanied by a reduction in legibility distance.

With the standard Helvetica font , and white on black print, we have a maximum theoretical legibility of 19, 36 e 65 meters respectively for RP-35, RP-60 e RP-100 flap units. The total maximum angle at which the inscriptions are still readable is of 140°

Colour Airline Logos samples

Sysco's Split-flap units modularity



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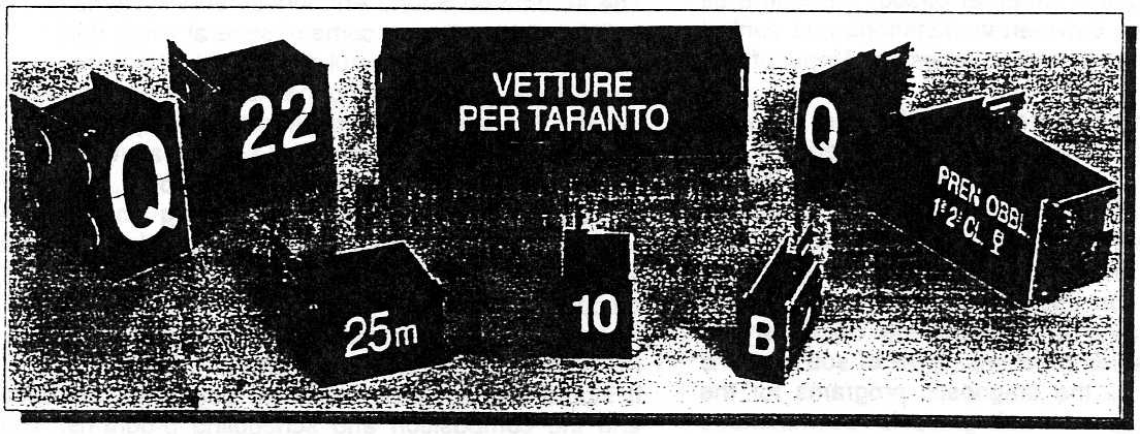

Split-Flap Modules

Sysco Split-Flap Modules for Information Display

In Information Display Systems for Public Transport Terminals, the displayed information must be presented to the Passengers in a clear and unambiguous way to assist them in finding quickly their way without generating any doubt on the interpretation and correctness of the display.

Thus legibility is the main issue for large display boards which to-day comprise both electromechanical and electronic display means.

The target is to present data with :

- high contrast
- wide legibility angle
- familiar fonts
- good changeover speed

The split-flap principle is to present variable inscriptions printed on a high contrast background flap. A full inscription is made of two flaps and the flap unit stores the printed flaps around a central drum, presenting, after a coded selection, the required inscription for public viewing..

A set of Split-Flap units together with their control electronics and framing mechanics can be organised into lines of information, to be termed boards, or as self contained units specific to a place usually called indicators as platform or gate or baggage indicator. From the information displaying capability point of view, there are two types of units: alphanumeric, which usually store a complete uppercase alphabet and units numbers set and a few punctuation marks, and long module units which can be printed with any kind of inscription on the allotted surface. These can present Multi-letter destinations in discrete, as Roman, or continuous fonts as Arabic, Farsi, Urdu etc. and colour graphics as Airline or Train Logos.

The displaying capability of these media is given by the number of flaps, 40 to 60 per unit, the characters height, 100 , 60, 35 mm and their width, defined in multiples (modules) of the alphanumeric unit. Their advantages are a long service life, unsurpassed legibility, no power consumption when idle, infrequent maintenance interventions.

The Split-flap units RP-SYSCO

Sysco introduced their Split-Flap units with a wide range of display combinations starting from their basic set of display units manufactured with three character heights, referred to the uppercase A, and various widths which can be combined in a modular way. The difference between SYSCO Split-Flap units and the other manufacturers similar units stays in the on-unit electronics which take care of the positioning, diagnostics and communications with the main display controller.This electronic controller, RISC based, is the most advanced between similar products and is the only one to be microprocessor drive.

The SYSCO Split-Flap unit is made of :

1. a 12 V cc polarised induction stepper motor which, through a geared set of wheels, sets the forward rotation of cam on which are located two , for the alphanumeric to six sprockets on which the flaps are snapped in.
2. the unit controller, a microprocessor which supervises to

and diagnostics. The system's management ids performed from the central unit and operator's workstations.. The Central Unit and the Operator's workstations (and optionally the peripheral units) are linked on a LAN (Local Area Network) which for al standard applications is Ethernet based. Through it all the data exchanges between workstations and central unit are performed as database access and input of non schedular data.
In medium to small systems the linkage between Central unit and periphery is performed via an asynchronous serial datalink as STP. In the Central Unit the main traffic database with the schedular information for the Terminal (Station) is stored with all the departing and arriving movements according to the current timetable. On this unit disk are stored all the application programs and databases necessary to perform all the display functions, drive of sub systems as ASA and run all the diagnostic programs for the periphery. A backup no-break group is recommended for the continuous operation of the Central control Unit and to protect it from spurious high voltage transients.

Operator's workstation slave units

This unit is the Operator's interface (Slave) to the system. The operator performs on this unit all the database files upgrading , inputs all the non scheduled events of interest to the information dissemination and monitors the correct performance of all the system's dedicated peripherals.
The operator's workstations are linked to the central control Unit by an Ethernet LAN for a continuous high speed safe data exchange

Application SOFTWARE

The application software package which manages the whole system is written in "C" language and uses a multitasking operating system developed by SYSCO Srl for this specific application. It's structured in a modular way , allowing a complete control over the system and timely and precise diagnostics on the system peripherals. The package lends itself to an extreme ease of integration and control of new types of displays and functions to satisfy particular information needs in the Transport terminal.
The main feature of the SYSCO control software is to be completely configurable by number, type and performance of the terminals , both visual and audio, so as to be able to satisfy the Terminal's needs . This system allows for the mixing of various display technologies without need to modify the application software code
The application software to communicate with the specialised peripherals avails itself of resident drivers to handle as TSR the protocols installed in the central system. peripherals are both display units and Local Information Systems
This software package will allow to manage the information systems using the Windows '95/98 and NT operating systems from early 1999. The man-machine interaction will improve dramatically with a universally understood graphic interface user friendly to the operators. The utilisation of standard programming interfaces will permit the easy integration of the system in communication networks and with hosts with uniformity of data exchange procedures.

Automated Sound Announcements (A.S.A.)

The Automated Sound Announcements systems of SYSCO Srl are the outcome of several year's field experience and successful deliveries to the Italian State Railways. integrating the Audio Announcements into the Passenger Terminal Information System.
The system offers an advanced set of features among which we want to underline its reliability, ease of operation, industry standard interfacing and optimal announcements broadcast. It is designed to transmit audio information messages on a schedular basis or on operator's command.
The audio output is compatible with the majority of Public address broadcast systems.
It stores the digitised messages segments database and the composition and scheduling programs. The messages creation and broadcast are commanded by the System Central Processor through dedicated application routines .

Functional features

The system is based on a Personal Computer equipped with the following components:

- a custom audio interface card designed by SYSCO Srl with ADPCM 4 bit D/A conversion,
- a hard disk to store the application program and the digitised database, with all the words and phrases needed to build the Terminal's vocabulary.
- a drive for 3 ½ " floppies for loading and backup
- an Ethernet LAN card , to interface it to the MASTER computer,
- a standard 14" video monitor to verify the messages composition in maintenance.
- an extended keyboard.

The system is interfaced to the main station control system from which it receives the fields and type of message to broadcast. The operations are based on a schedule, linked to the main timetable for arrivals, departures, change of platform , delay, general utility messages, etc.
On output the system is interfaced to the station's PA system on an analog audio plug with power output level easy settable under software control.

Custom applications

Sysco delivered replacement and upgrading software and processors for most of minicomputer and PC based systems on the market.
All these new upgradings save costly investments on still operative electromechanical displays with up-to-date software and new display networks.

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SYSCO

Vacuum Fluorescent Displays - VFD

VACUUM FLUORESCENT DISPLAY - VFD GENERAL DESCRIPTION

With the introduction of VFD technology as display medium it's possible to present wholly electronic Information display boards with a high luminous intensity (350 cd/m²) suitable to be installed in Transport terminals large halls and to provide clearly readable information in the normal ambient luminance levels met in such an environment.

The VFD boards , a first by SYSCO srl, offer a standard blue-green colour providing an optimally legible medium at two to three times the luminous intensity obtainable with Led of similar, but not sam e colour. The VFD can be compared with all the other active matrix displays and be always found winning in terms of legibility, long term optical features constancy and low cost.

The General Departures Arrivals Boards, gate and baggage signs and platform and subway indicators for railways are available with the following features:

★ information is displayed with 50 mm high 7x5 VFD characters of blue-green colour

★ clear readability of its information in a range of 2 to 30 meters.

★ information is clearly readable in an arc of 140° centred on the board's centreline, making the display suitable to be installed in large halls.

★ the displayed font and colour have no match in solid state displays at the same brightness level.

Board's functional structure

The board has a functional structure made of five blocks:

1. fixed headings
2. dynamic VFD information lines
3. board and line control electronics
4. wiring
5. Internal and outside frame

Fixed headings

The headings with any specified inscription occupy the upper part of the board.

Optionally a digital VFD clock can be added on the heading frame.

VFD information lines

The dynamically changeable information is displayed with VFD matrix characters. The matrix is 7 pixels in height by 5 wide and each pixel's dimensions are 5x6 mm..

All ASCII uppercase characters are displayable with a luminous intensity of 350 cd/m2 and a blue-green colour, a unique feature of this display. However other colours and character sizes are available on request.

The quantity and structure of the information on the board will be defined by the customer, however we present here a standard for the Italian State Railways

Board and line control electronics

A control unit labelled CPU-VFD performs all the communication, control and diagnostic functions on the board. The connection to the central computer is performed on a RS 422 line. Each line has a local CPU to drive the line VFD. All these line CPU communicate with the board controller on an RS 485 line.

Each line has its own power supply.

- satisfy the electrical safety regulations
- satisfy the protection level standards for displays to be placed in severe environment

We can divide the board into these categories of equipment :

The mechanical frame

From a physical point of view the board is made of the following parts: outside frame, made of zinc treated iron sheet 25/10 and polyester painted usually in matt black.

Internal frame to support the Split-Flaps and their electronics, made of 6060 aluminium , with two sides and as many shelves as the number of lines plus one, to house the power supplies and termination strips.

the supports for the information lines backplane wiring.

The information lines

The set of split flaps, their line controllers and backplane wiring constitute the information line. Its length is not limited by the backplane addresses availability.

The internal power wiring

The internal power wiring is divided into three parts:

- Service circuits
- Split-Flap power and communications
- Line Electronic control cards

Service circuits

The connection to mains is performed through a termination strip which connects the mains to the line power supplies at 12V DC. The mains supply is protected by a magneto thermal switch 15 A with PI 6 KA which also protects an outlet at 220 V 16 A.

Split-Flap power and communications

The feed and control circuits for the Split-Flap units are divided into:

- low voltage circuits, made of as many 220VAC-12VDC 12 A (Switching power supply 150 W) , protected by a magneto thermal switch 15A 6KA.
- a bus matrix of one bus every two lines which feed both the 12V DC and the RS 485 levels to al th Split-Flap units

Line Electronic control cards

The information display control is task of one controll CR-SYSCO every two lines . They perform all th writing, drive and control functions on the boards.

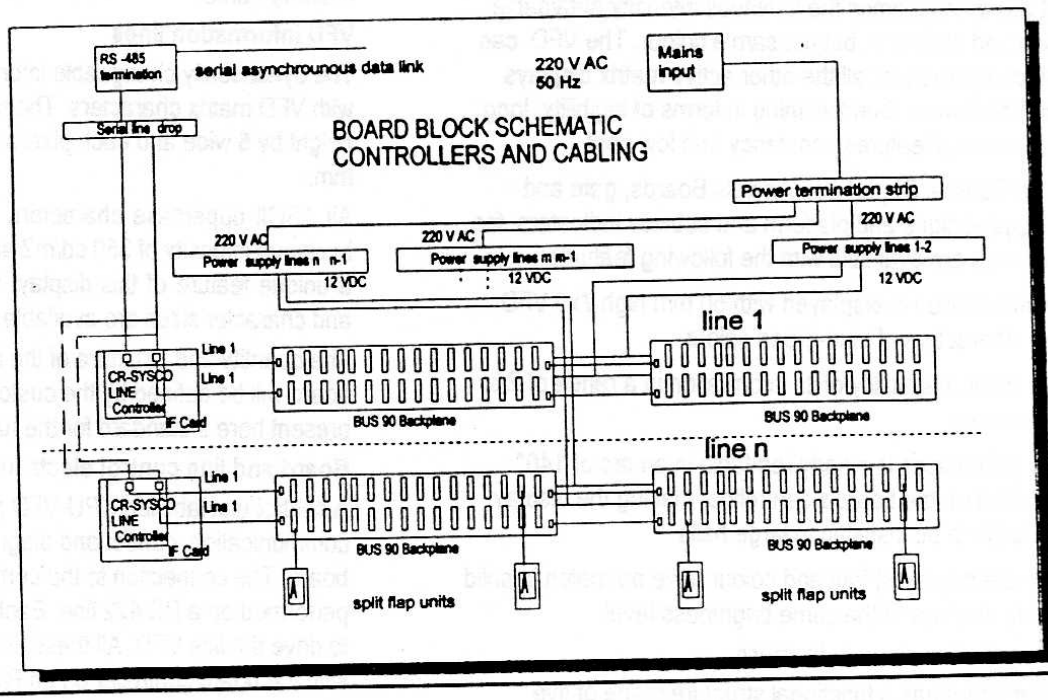
An interface card IF and its related cables conne these cards to the central computer (RS 422) to whi is drop terminated on a line termination strip D and the Split-Flap units on RS 485 multidrop on the BU 90 backplane cards . The BUS 90 backplane car card is a passive backplane card which interfaces t controller to the individual Split-Flap units with a sh cable which in some cases can be dispensed of.

Options

The main options are

- Up to 20 lines
- Clock on the main heading (Dial or VFD)
- Anti-vandalism front protection
- Illumination
- Anti condensation heating
- 1 or 2 free format lines
- Special weatherproof enclosures

Voltage	220 V AC +/- 10%
Frequency	47 - 63 Hz
Temperature	-20° +60° C
Interface	RS - 422 - Ethernet optional
Speed	1200 a 9600 Baud
Format	8 bit Data, 1 bit Stop, Even parity
Protocol	Multipoint
Safety standard	IEC 950



SYSCO

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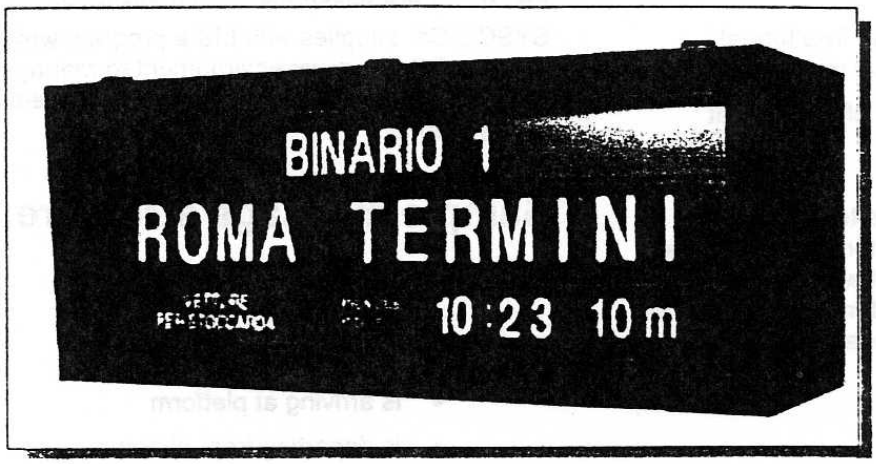


Platform Indicators

Sysco Platform Indicators for Passenger Information

The purpose of platform indicators is to provide to Passengers clearly readable travel information on platforms alongside tracks . They can be built as single or double face units with standard configurations for almost all the major railways. They are provided with adequate illumination that is turned on at information posting. The number of lines depends on the complexity of the information to be displayed : hence two basic versions with two or three lines.
The dynamic information is provided by *split-flap units* and they are assembled according to the necessity of displaying variable alphanumeric information, with single units, or fixed pre-set information, as train logos or complementary information, on wide modules. These latter will be defined with the Customer and their maintenance during the system's life cycle will be performed with the supply of replacement flaps. Our description will follow with a typical Railway indicator for outside installation: it's exemplary of all the family of indicators and the others are obtained with a constructional simplification of this complex design

Indicator's structure

The indicator's enclosure will be engineered as to withstand severe environmental conditions.
Moreover the single face ones are designed as to allow for their coupling to assemble a double face ones. The platform indicators are supplied complete with the mounting brackets for pole, banner or ceiling mounting.

Platform indicator 2 lines double face

It's structured on two lines with different characters height and contents as follows:

Line 1				
FIELD	*UNITS*	*TYPE*	*CH.*	*H mm*
DESTINATION	12	ALPHANUM.	1	100
Line 2				
REMARKS	1	WIDE FLAP	6	60
TYPE	1	WIDE FLAP	4	60
HOURS	1	WIDE FLAP	2	60
MINUTES	2	ALPHANUM.	1	60
DELAY	1	WIDE FLAP	4	60

Mechanical frame

The mechanical frame design of an indicator for railways must comply with environment constrains which are summarised by the IP standards: usually the requirements are for IP 54 or IP 55 protection standards: The first digit of the standard denoting the ability of the display being sealed to dust (4 and 5 denoting the size of dust particles to be stopped) and the second number the resistance to vertically falling water (4) or pressure sprayed (5) water.

The standard mechanical frame

From a physical point of view the standard indicator is made of the following parts:

- Outside frame, made of zinc treated iron sheet 15-20/10 and polyester painted usually in matt black.
- Internal frame to support the Split-Flaps and their electronics, made of 6060 aluminium , with two sides and four shelves, the upper two to house the power supplies and termination strips and the others the supports

Utility functions

In addition to the standard features there are also utilities as:

- Digital setting of the audio output level
- Control and playback of stored messages
- Capability of recording free format messages from a local microphone
- Playback and editing of free format messages

The potential of the LIS is such as to permit the implementation of a distributed information network managed by a central, "gate", unit which is responsible for the centralised generation and maintenance of all the information package.All the local diagnostics are transmitted to the "gate" unit.

System's hardware

The LIS is contained in an ABS enclosure certified to IP66 environment protection standard, with a front transparent door, which houses the CPU card, the power supply, and Liquid Crystal Display service display and the programming keypad.

The system's electronics have the following features:

- Switching power supply AC/DC input 150-230 Vac, output 5 and 12 Vdc 1 A
- Microprocessor control unit INTEL 80151?80251 8/16 bit , 11 MHz clock.
- Program EPROM 256 KBytes
- Battery backed-up RAM 128 KBytes
- RTC calendar clock with 10 years battery
- Service console with Liquid Crystal Display alphanumeric 2 lines by 40 characters backlit and 6 functional keys
- D/A converters for audio output using an ADPCM sampling at 8 KHz , with a band of 3.4 KHz, for a total stored messages capacity of 6 minutes of speech.
- D?A converter for the free format messages storing for a maximum of 2 minutes of messages
- Audio output of 0.5 Watt with hardware handshaking interface(free/busy) with the PA console.
- Serial line to the visual displays on RS 485 (split-flaps, video monitors etc.)
- Serial line port RS 232 at 9600 baud for remote control by a BB/BF modem.
- Relay interface of 24 photo coupled inputs : input current can be configured through jumpers as internal or external. The input range shall be 12 - 150 V dc/ac.

Sample resident audio segments and messages

As an example we describe a typical set of audio segments on which to build the message for a system.

It is possible to generate stored segments for all the fixed parts of the message as City names, fixed parts etc. which are assembled into messages.

SYSCO Srl supplies with LIS a program which runs under a OC Windows environment to manage and record the audio segments and transfer them to LIS chip support.

Sample message structure:

Audio segments:

- train
- originating from
- is arriving at platform
- is departing from platform
- Caution. Train in transit . Stay back from the platform edge.
- For
- One
- Two
- City 1
- City2
- .City N

Fixed messages:

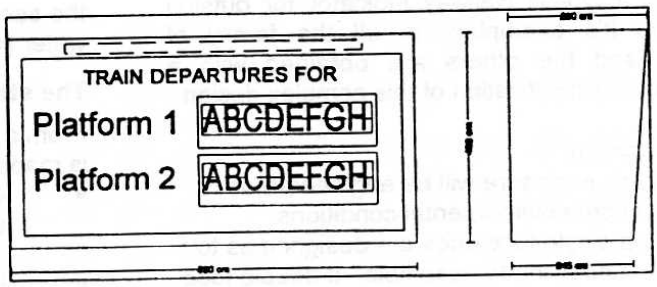
- Do not cross the rails. Use the underground passage.
- Customers are kindly reminded that smoking is forbidden on the station premises.

Message - split-flaps association

Through this function it is possible to associate to a given message a split-flap unit position.

Activating the function these fields are shown:

- message sequence number
- flap sequence number on a given unit
- 4 fields giving the split-flap units addresses



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