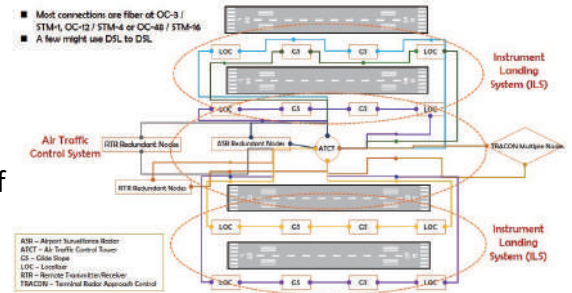


Loop All-in-One Solutions for Civil Aviation Project

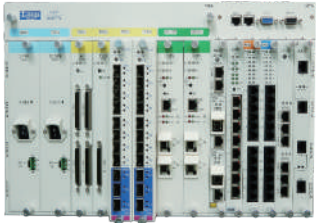
Airports Common View

Loop Telecom provides total solutions for transmission equipment for government agencies to build effective ATC and ILS systems for airports. Our iNET management and provisioning also lightens the load of maintenance.



Loop-O9500R Total Solution

The Loop-O9500R IMAP (Integrated Multi-Services Access Platform) is an economical, all-in-one solution for integrating various types of signals and transportation over various types of networks within one enclosure. Below are multiple plug-in cards for the Loop-O9500R Integrated Multi-Services Access Platform (IMAP) that supports PDH/SDH/SONET/PTN simultaneously.



O9500-R-8GES4SWA



O9500-R-12FXSA



O9500-R-8EMA



O9500-R-6UDTEA



O9500-R-OCUDPA

Instrument Landing System (ILS)

Our platform can help develop and grow the ILS (Instrument Landing System). The ILS localizer (LOC), which is used to guide aircraft along the axis of the runway. The glide slope (GS) is a system of vertical guidance in the ILS which indicates the vertical deviation of the aircraft from its optimum path of descent. Both can be served with similar Loop' s plug-in cards (Table 1 & 2).

Table 1. The ILS Localizer (LOC)

Interface	Service Type	Loop Product
10/100 Ethernet	Remote Maintenance System (RMS)	O9500-R-8GES4SWA
FXS	Site Phone	O9500-R-12FXSA
2 Wire E&M	Localizer FSK, ALSF Control, LCU, RCSU, RLIM (Vault), MALSR Control	O9500-R-8EMA
4 Wire E&M	Far Field Monitor	O9500-R-8EMA
DDC	ERMS (RS232, ASYM, 19.2k, 8N1, RTS FORCE ON)	O9500-R-6UDTEA
DDS	ASDE-X	O9500-R-OCUDPA

Table 2. The Glide Slope (GS)

Interface	Service Type	Loop Product
10/100 Ethernet	Remote Maintenance System (RMS)	O9500-R8GES4SWA
FXS	Site Phone	O9500-R-12FXSA
2 Wire E&M	Typically 3 circuits - One control (LCU) - One monitor (RSCU) - One RVR (RO RVR)	O9500-R-8EMA
DDC	ERMS (RS232, ASYM, 19.2k, 8N1, RTS FORCE ON), RVRPC	O9500-R-6UDTEA
DDS	ASDE-X	O9500-R-OCUDPA

Air Traffic Control System

Loop Telecom also help develop ATC (Air Control Tower), including for localizer, glide slope, and terminal radio control and more. The ATCT (Air Traffic Control Tower) and The Tracon (Terminal Radar Approach Control) are two important facilities of an air traffic control system (figure 1). The ATCT being the main source of control and surveillance for aircraft needs a wide array of services for it to function. The TRACON (Terminal Radio Approach Control) also known as Terminal Control (TC) usually handles traffic in a 30-50 nautical mile (56-93 km) radius from the airport. Both can be served with similar Loop's plug-in cards (table 3 & 4).



Figure 1. Facilities of an Air Traffic Control System

Table 3. Air Traffic Control Tower (ATCT) Tower Shaft

Interface	Service Type	Loop Product
10/100 Ethernet	ARMT, DALR Workstation, E/G PLC, ICMS-PR, ITWS, OMT, FOTS RMS, SMC, STDDS, TFD, TDL, VcP Phone	O9500-R-8GES4SWA
FXS	Site Phone	O9500-R-12FXSA
2 Wire E&M	ATIS Dial Line, DALR Alarm, DASI	O9500-R-8EMA
4 Wire E&M	AITS Audio and Key, ATIS Monitor, AITS REC, TCD, VSBP GC1 REC, ENABLE VSBP GC1 Tx, RX, PTT VSBP LC REC, ENALBE VSBP LC TX, RX, PTT	O9500-R-8EMA
Contact Closure	RDUVS, DALR Remote Alarm	O9500-R-8DC
T1	VS DS1 Circuits	O9500-R-16TE
DDC [EIA-530]	EFSTS CC Keypad/Scan (ASYN, 9.6K, 7Y1, RTS FORCE ON), EFSTS LC Keypad/ Scan (ASYN, 9.6K, 7Y1, RTS FORCE ON), EFSTS TMU Scan (ASYN, 9.6K RTS FORC ON), FDI0 CD1 PRINT, FDI0 CD2 PRINT, IDS-4, RVR Display 1 [SYNC, 9.6K, RTS FORCE ON], RVR Display 2 [SYNC, 9.6K, RTS FORCE ON], TDL5 FDI0 RANK (ASYN, 2.4K, 8Y1, RTS FORCE ON), WSP (EIA-530 Synchronous, 128 kbps), TDL5 PDC (ASYN, 2.4K, 8Y1, RTS FORCE ON)	O9500-R-6UDTEA
DDC [EIA-232]	ASOS OID (ASYN, 9.6K, 8N1, RTS FORCE ON), DLAR, WEMS [RS232, ASYN, 19.2K, 8N1, RTS FORCE ON], LLWAS, RCP, SWS to LLWAS, SWS to SATRS, SWS to NIDS, TDL5 ASOS (ASYN, 2.4K, 8N1, RTS FORCE ON), TDL5 FDI0, TDWR Backup [SYNC, 9.6K, RTS FORCE ON], EFSTS GC2 Scan (ASYN, 9.6K, 7Y1, RTS FORCE ON)	O9500-R-6UDTEA
DDS	ASDE-X, VDCU	O9500-R-OCUDPA

Table 4. Terminal Radar Approach Control (TRACON)

Interface	Service Type	Loop Product
10/100 Ethernet	ARMT, DALR Workstation, E/G PLC, ICMS-PR, ITWS, OMT, FOTS RMS, SMC, STDDS, TFD, TDL, VcP Phone	O9500-R-8GES4SWA
2 Wire E&M	DASI CAB DISPLAY, 10L TD RVR (V51), 10L RO RVR (V53), RLIM, LOC, RCSU, GS RCSU, LOC RMM, GS RMM	O9500-R-8EMA
4 Wire E&M	VSBP LC TX, RX, PTT, VSBP LC REC, SCIVITATE, ATIS AUDIO AND KEY, ATIS MONITOR, AMBIENT LIGHT SENSOR, DALR REMOTE ALARM, MAIN RX AUDIO, TIME CODE DISPLAY, F45	O9500-R-8EMA
DDC [EIA-232]	ERMS (RS232 @19.2K) EFSTS GC SCANNER (ASYN, 9.6K, 7Y1, RTS FORCE ON), EFSTS GH SCANNER (ASYN, 9.6K, 7Y1, RTS FORCE ON), WME CAB DISPLAY (ASYN, 9.6K, 7Y1, RTS FORCE ON), WME CAB DISPLAY (ASYN, 19.2K, 8N1, RTS FORCE ON), TDWR BCS [SYNC, 9.6K, RTS FORCE ON], ASOS OID TO CAB (ASYN, 9.6K, 8N1, RTS FORCE ON), TDWR DFU4 TO ITWS (ASYN, 9.6K, 8Y1, RTS FORCE ON), ITWS WME FEED [SYNC, 9.6K, RTS FORCE ON], TDL5 ASOS (ASYN, 2.4K, 8N1, RTS FORCE ON), ILS RSU [SYNC, 2.4K, RTS FORCE ON], FTI [SYNC, 2.4K, RTS FORCE ON]	O9500-R-6UDTEA
DDC [EIA-422/530]	EFSTS LC SCANNER (ASYN, 9.6K, 7Y1, RTS FORCE ON), EFSP 1 (PBIT PRINTER) (ASYN, 2.4K, 8N1, RTS FORCE ON), EFSTS CC SCANNER (ASYN, 9.6K - 7Y1, RTS FORCE ON), EFSTS TMU SCANNER (ASYN, 9.6K, 7Y1, RTS FORCE ON), RVR CAB DISP 1 [SYNC, 9.6K, RTS FORCE ON], RFP2 2 (PBIC PRINTER) (ASYN 2.4K, 8N1, RTS FORCE ON), TDL5 RANK (ASYN, 2.4K, 8Y1, RTS FORCE ON), TDL5 CRT (ASYN, 2.4K, 8Y1, RTS FORCE ON), TDL5 PDC (ASYN, 2.4K, 8Y1, RTS FORCE ON), RVR CAB DISP 2 [SYNC, 9.6K, RTS FORCE ON]	O9500-R-6UDTEA

Airport Surveillance Radar (ASR)

ASR (Airport Surveillance Radar) is a radar system facility for detecting the presence and position of aircraft in the terminal area, the airspace around airports. At large airports it typically controls traffic within a radius of 60 miles (96 km) of the airport below an elevation of 25,000 feet. In table 5, it shows the plug-in cards it is served with.

Table 5. Airport Surveillance Radar (ASR)

Interface	Service Type	Loop Product
10/100 Ethernet	Remote Maintenance System (RMS)	O9500-R-8GES4SWA
FXS	Site Phone	O9500-R-12FXSA
4 Wire E&M	Radio Voice and PTT	O9500-R-8EMA
DDC	ERMS (RS232, ASYN, 19.2k, 8N1, RTS FORCE ON), RVR/PC	O9500-R-6UDTEA
DDS	ASDE-X	O9500-R-OCUDPA

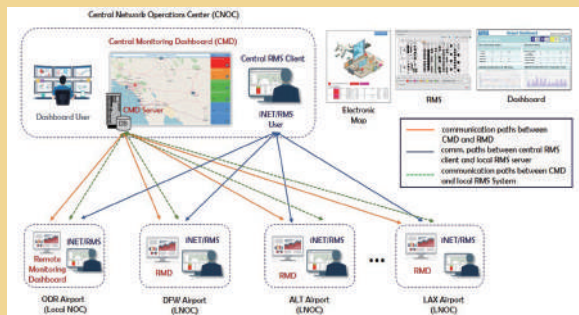


Figure 2. National Monitoring Dashboard

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