



**Office of the Chief Commercial Manager (Passenger Marketing)
South Central Railway, Ministry of Railway, Government of India
1st Floor, Reservation Complex, Secunderabad – 500 025 (Telangana)
BSNL: 040-23446825, Email: dyccmprs2017scr@gmail.com**

No.C/CR/UTS/Mobile Ticketing/2023

Date: 03.04.2024

**Sr.DCMs
SC, HYB, BZA, GNT, GTL & NED Divisions.**

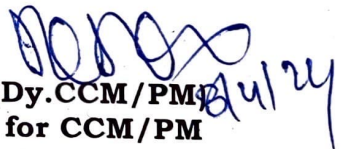
Sub: Enabling QR code based payments utilizing the fare repeaters at PRS counters- Reg.

Ref: CRIS/SC/Miscellaneous/4176, dated 02.04.2024.

The facility of payment of fare by scanning the QR code through any UPI based mobile app has been enabled on a pilot basis in UTS where fare repeaters are available over SC & BZA Divisions. CRIS is doing integration with fare repeater device to display dynamic QR Code for making payments for PRS tickets also.

In this regard, CRIS/SC has provided the technical specifications of fare repeater for enabling QR payments in PRS counters also. (copy enclosed).

Divisions are requested to advise all the fare repeater device vendors to upgrade their software as per the enclosed specifications.


(Dy.CCM/PM)
for CCM/PM

Encl: As above.

रेलवे सूचना प्रणाली केंद्र

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CCM/PM
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DY. CCM/PRS
DBM
OH: OS

CRIS

CENTRE FOR RAILWAY INFORMATION SYSTEMS

(An Organisation of the Ministry of Railways, Govt. of India)
1st Floor, Railway Reservation Complex, S.C.Rly., Secunderabad - 500 025
Telephone : 040-27702116, Fax : 040 - 2805483

प्रधान कार्यालय / HEAD OFFICE
चाणक्यपुरी, नई दिल्ली - 110 021
Chanakyapuri, New Delhi - 110 021
टेलीफ़ोन / Telephone : 011-24104525, 011-24106717
फैक्स/Fax : 91-11-26877893

क्षेत्रीय कार्यालय / REGIONAL OFFICES
कोलकाता/Kolkata : 033-22425909
चेन्नई/Chennai : 044-25330893
मुंबई/Mumbai : 022-22702167
नई दिल्ली/New Delhi : 011-23366847

No.CRIS/SC/Miscellaneous/4176

Date: 02.04.2024

DyCCM/SCR

Sub: Implementation of display of QR code through Fare Repeaters -Reg

Ref: Your office letter No.C/CR/UTSDB/Mobile Ticketing/2023 dated 22/03/2024

With reference to the above letter, technical specification for PRS QR code has been finalized recently and enclosed herewith for implementation by vendor in fare repeater devices.

Once the vendor implements the specifications in fare repeater and the device is tested successfully with respect to the specifications provided, implementation of QR code in fare repeaters available at the remaining PRS counters can be done. This may please be shared with the vendors providing such devices.

This is for your kind information and necessary action.

Encl: As above

OFFICE OF THE
CHIEF COMMERCIAL MANAGER
PASSENGER MARKETING

Radha Gopinath
Radha Gopinath
(Principal Project Engineer/PRS)
(CRIS/SC)

Display of QR Code on Fare Repeater device connected to thinclient in PRS

Data would be sent by the application to the serial port (com port) of the thinclient. The screen should remain cleared before the start of next booking transaction (i.e., vendor has to clear the fare repeater device once he receives the new TDRC information) . For a single booking transactions data would be sent in the following sequence.

For any booking transactions with/without QR Code

1. TDRC details & Passenger details in the sample string format given below.

Sub Function code "111"

Description	Max No of Characters	Value
Start of Header (SOH)	1	CTRL-A or <Character Value of 1>
thPRS	5	To indicate PRS thinclient
Function Code for PRS	2	02
Sub Function Code	3	111
Identification for Query	1	Q
Length	3	No of characters between SOT & EOT
Start of Text (SOT)	1	CTRL-B or < Character value of 2>
All the Fields values will be preceded by a \$ and 2 digit serial numerical code & a separator ":".		
Identification for First Field	4	\$01:
Value for First Field	5	Train No
Identification for 2nd Field	4	\$02:
Value for 2nd Field	2	DOJ(DD)
Identification for Third Field	4	\$03:
Value for Third Field	2	DOJ(MM)
Identification for 4th Field	4	\$04:
Value for Fourth Field	4	FROM Station
Identification for 5th Field	4	\$05:

Value for 5th Field	2	class
Identification for 6th Field	4	\$06:
Value for Second Field	2	Quota
Identification for 7th Field	4	\$07:
Value for 7th Field	4	Destination
Identification for 8th Field	4	\$08:
Value for 8th Field	2	No of passenger
Identification for 9th Field	4	\$09:
Value for 9th Field	4	Reservation Upto
Identification for 10th Field	4	\$10:
Value for 10th Field	4	Boarding Point
Identification for 11th Field	4	\$11:
Value for 11th Field	6	Operator Code
Identification for 12th Field	4	\$12:
Value for 12th Field	20	Operator Name
Identification for 13th Field	4	\$13:
Value for 13th Field	25	Special Message
Identification for 14th Field	4	\$14:
Value for 14th Field	6	Total Fare of ticket
Identification for 15th Field	4	\$15:
Value for 15th Field	16	Name of passenger
Identification for 16th Field	4	\$16:
Value for 16th Field	1	Sex of passenger
Identification for 17th Field	4	\$17:
Value for 17th Field	2	Age of passenger
Identification for 18th Field	4	\$18:
Value for 18th Field	10	Status of passenger
Field 15 to 18 will be repeated for maximum of 6 passengers		
Last character (ETX)	1	Ascii value of 3

Below sequences valid for QR Code based payment

2. QR code details – function code “112”

Packet Interpretation for Terminal/Fare Repeater connected to PRS thin client		
Description	Max No of Characters	Value
Start of Header (SOH)	1	CTRL-A or <Character Value of 1>
thPRS	5	To indicate PRS thinclient
Function Code for PRS	2	02
Sub Function Code	3	112
Identification for Query	1	Q
Length	3	No of characters between SOT & EOT
Start of Text (SOT)	1	CTRL-B or < Character value of 2>
QR Code string	350	QR code payment string
Separator	1	\$
Message indicating "INDIAN RAILWAYS , SOURCE to Destination, TRN NO:5 char Cls code, To pay Fare "	100	
Last character (ETX)	1	Ascii value of 3
Vendor application need to segregate the QR code using the "\$" separator		

3. Payment Success – Sub function code “113”

Description	Max No of Chars	Value
Start of Header (SOH)	1	CTRL-A or <Character Value of 1>
thPRS	5	To indicate PRS thinclient
Function Code for PRS	2	02
Sub Function Code	3	113
Identification for Query	1	Q
Length	3	No of characters between SOT & EOT
Start of Text (SOT)	1	CTRL-B or < Character value of 2>
Payment success text	25	Payment success text
Last character (ETX)	1	Ascii value of 3

4. Payment Not Success – Sub function code “114”

Description	Max No of Chars	Value
Start of Header (SOH)	1	CTRL-A or <Character Value of 1>
thPRS	5	To indicate PRS thinclient
Function Code for PRS	2	02
Sub Function Code	3	114
Identification for Query	1	Q
Length	3	No of characters between SOT & EOT
Start of Text (SOT)	1	CTRL-B or < Character value of 2>
Payment failure text	25	Reason for Payment not success
Last character (ETX)	1	Ascii value of 3

1. For future use - Verify connectivity between Host and Fare Repeater Device for testing purpose only – Sub function code “110”

Query Packet Format sent to Serial Port		
Description	Max No of Chars	Value
Start of Header (SOH)	1	CTRL-A or <Character Value of 1>
thPRS	5	To indicate PRS thinclient
Function Code for PRS	2	02
Sub Function Code	3	110
Identification for Query	1	Q
Length	3	No of characters between SOT & EOT. Here Length would be zero. Char 13 to 15 blanks.
Start of Text (SOT)	1	CTRL-B or < Character value of 2>
Last character (ETX)	1	Ascii value of 3. There is nothing between the STX and the ETX.

Response Packet Format to be sent by Fare Repeater device via Serial Port would be same as above packet except Q is changed to S i.e., The character 12 would be changed from 'Q' to 'S'.

Sample packet formats

TDRS AND PSGN DETAILS FOR 1 NO OF PSGN

BUFFER RECIEVED IS: **SOH**thPRS02111Q165**STX**\$01:12420\$02:22\$03:03\$04:NDLS\$05:CC\$06:GN\$07:LKO
\$08:01\$09:LKO \$10:NDLS\$11:ASHWAN\$12:ASHWANI
\$13:\$14:000725\$15:AAAAAAAAAAAAAAAA\$16:M\$17:32\$18:C2 - 43 (**ETX**)

TDRS AND PSGN DETAILS FOR 6 NO OF PSGNS

BUFFER RECIEVED IS: **SOH**thPRS02111Q390**STX**\$01:12420\$02:23\$03:03\$04:NDLS\$05:CC\$06:GN\$07:LKO
\$08:06\$09:LKO \$10:NDLS\$11:ASHWAN\$12:ASHWANI
\$13:\$14:004350\$15:AAAAAAAAAAAAAAAA\$16:M\$17:23\$18:C2 - 43
(\$19:BBBBBBBBBBBBBBBB\$20:F\$21:34\$22:C2 - 45 (\$23:CCCCCCCCCCCCCCCC\$24:M\$25:23\$26:C2 -
44 (\$27:DDDDDDDDDDDDDDDD\$28:F\$29:32\$30:C2 - 46 (\$31:EEEEEEEEEEEEEEEE\$32:M\$33:23\$34:C2
- 47 (\$35:FFFFFFFFFFFFFFFF\$36:F\$37:32\$38:C2 - 48 (**ETX**))

QR CODE STRING AND OTHER DETAILS

BUFFER RECIEVED IS: **SOH**0000000112Q500**STX**
upi://pay?ver=01&pa=railsbiupi11@sbi&pn=RailwayPayment&mc=4112&tr=803210000686309NR&am=43
50.00&cu=INR&url=&mode=02&purpose=03&qrMedium=06&orgid=159002&sign=MEUCIQDJSaOu21ZisB6wTQ
Ioc9SPkpi9RHAKm5NVRheUFV5IwQIgs0SK9K5NT6erObs7RnUEcC7betq+wE4YGjRmhzZ3Ce0=\$ INDIAN
RAILWAYS
NDLS TO LKO (CC)
TRN:12420(23-03-2024)
TO PAY:Rs.4350**ETX**

PAYMENT NOT SUCCESS/RETRYING/FAILED/AUTHORIZATION FAIL

BUFFER RECIEVED IS: **SOH**0000000114Q050**STX** RETRYING...**ETX**
BUFFER RECIEVED IS: **SOH**0000000114Q050**STX** PAYMENT FAILED**ETX**
BUFFER RECIEVED IS: **SOH**0000000114Q050**STX** AUTHORIZATION FAILED**ETX**